Abstract

[0159] The present invention is a wafer engine for transporting wafers. The wafer engine includes a linear drive for moving the wafer along an x axis, a rotational drive for rotating the wafer about a theta axis, a linear drive for moving the wafer along a z axis, and a linear drive for moving the wafer along a radial axis. The linear drive for moving the wafer along a z axis is offset from the rotational drive. When the rotational drive rotates about the theta axis, both the z axis and radial axis drives are also rotated about the theta axis. Preferably, the linear drive for moving the wafer along a radial axis is a dual or rapid swap slide body mechanism having an upper and lower end effector. The slide body mechanism preferably also has means to align the wafer and perform various inspection and marking procedures.